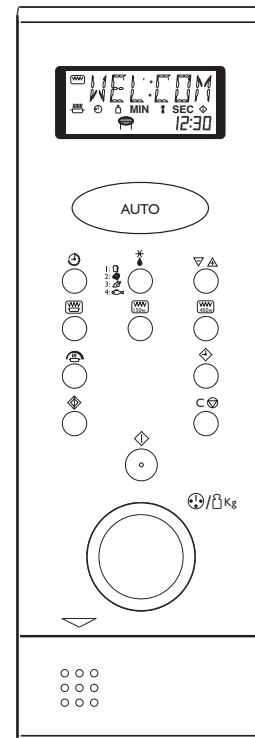
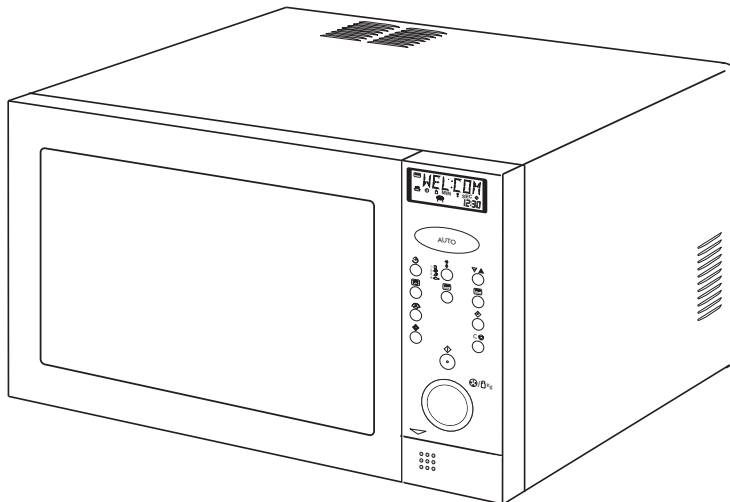


SERVICE MANUAL

STAINLESS STEEL MICROWAVE OVEN WITH GRILL

EM-SL20NECO



Product Code No.

EM-SL20NECO 1-437-574-25

FOREWORD

Read this manual carefully, especially precaution on microwave energy, and follow the procedure strictly. Careless servicing and testing may expose yourself to the microwave energy leakage.

PRECAUTIONS

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- Do not operate or allow the oven to be operated with the door open.
- Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs if necessary:
 - Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
- Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave-guide or transmission line, and cavity for proper alignment, integrity, and connections.
- Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

TABLE OF CONTENTS

Adjustment Procedures.....	1	Circuit Diagram.....	4
Specifications.....	2	Test Procedures and Troubleshooting.....	5-12
Power Output Measurement.....	2	Disassembly Instructions.....	13-14
Precautions and Repair Service Tips.....	2	Exploded View and Parts list.....	15-19
Oven Control Panel.....	3	Control Circuit Board.....	20
		Overall Circuit Diagrams.....	21

CAUTION

MICROWAVE ENERGY

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVE GUIDES, FLANGES, AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVE GUIDE OR ANTENNA WHILE THE DEVICE IS ENERGISED.

1. ADJUSTMENT PROCEDURES

TO AVOID POSSIBLE EXPOSURE TO MICRO-WAVE ENERGY LEAKAGE, THE FOLLOWING ADJUSTMENT OF THE INTERLOCK SWITCHES SHOULD BE MADE ONLY BY AUTHORISED SERVICE PERSONNEL

PRIMARY INTERLOCK SWITCH, DOOR SENSING SWITCH AND INTERLOCK MONITOR SWITCH
ADJUSTMENT
(Figure 1)

- (1) Loosen 2 screws securing the lever stopper.
- (2) Adjust the lever stopper position so that it is pushed up and pull forward until there is about zero gap.
 - 2-1. Between the lever and the switch body on the door sensing switch.
 - 2-2. Between the lever and the switch body on the interlock monitor switch.
 - 2-3. Between the latch lever and the switch body on the primary interlock switch.
 when the door latch is securely locked.
- (3) Tighten the lever stopper screws securely.
- (4) Make sure the interlock monitor is closed after the primary interlock switch opens when the door is opened very slowly, according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 8.
- (5) Make sure the interlock monitor is open before the primary interlock and secondary interlock switches close when the door is closed very slowly, according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 8.
- (6) Make sure the microwave energy leakage is below the limit of the regulation ($5\text{mW}/\text{cm}^2$) when measured with a detector. (All service adjustments must be made for minimum energy leakage readings.)

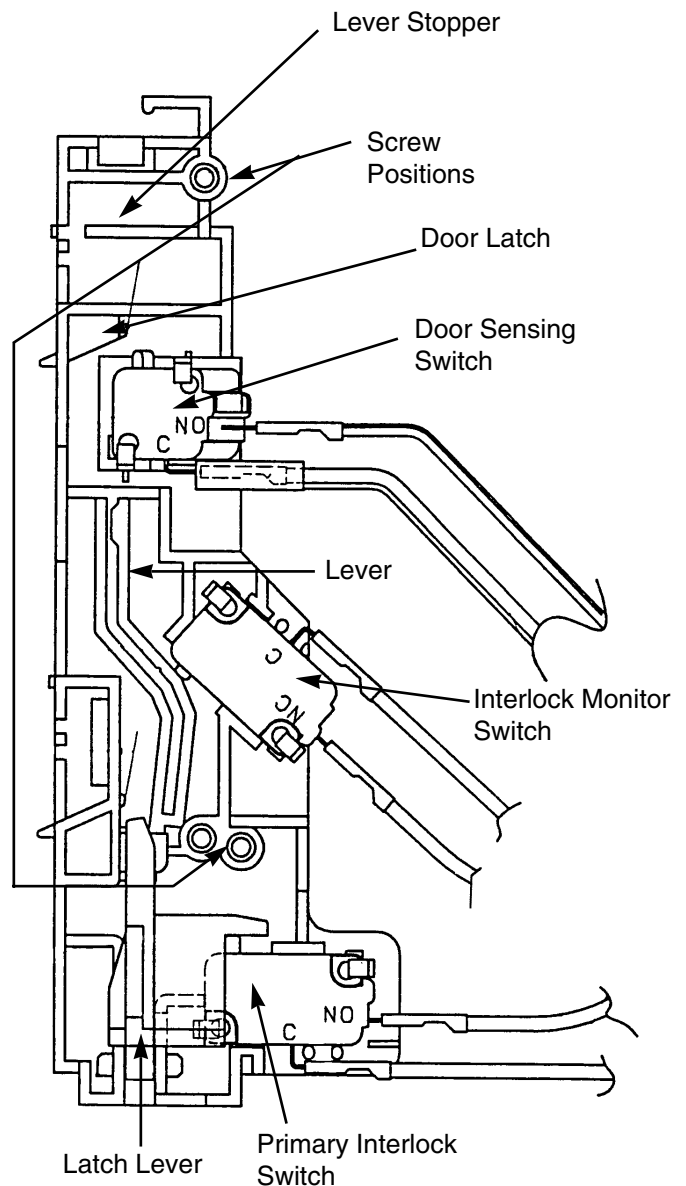


Figure 1

2. SPECIFICATIONS - EM-SL20N

Rated Power Consumption.....	Micro 1450±10%W Grill 1100+5/-10%W Dual 2500+5/-10%W (After 15mins.)
Microwave Output.....	900W(Adjustable 90W through 900W)
Frequency.....	2,450MHz ± 50MHz
Power Supply.....	230V,50Hz
Rated Current.....	Micro 6.3±10% Amps Grill 4.75+5/-10% Amps Dual 10.9+5/-10% Amps (After 15mins.)
Safety Devices.....	Thermal Protector for Magnetron and Cavity, Open at 122°C Thermal Protector for Heater, Open at 150°C Fuse (Cartridge Type 8A) Primary Interlock Switch Door Sensing Switch Interlock Monitor Switch
Timer.....	Electronic Digital
Overall Dimensions.....	490(W)x378(D)x322(H)mm
Oven Cavity Size.....	304(W)x304(D)x248(H)mm
Turntable Diameter.....	262mm
Net Weight.....	Approx. 19.0Kg.

3. POWER OUTPUT MEASUREMENT

- (1) Prepare 1000cc tap water in a wide mouthed Pyrex container.
- (2) Stir thoroughly and note initial water temperature T1 (°C).
- (3) Place container in centre of oven and operate for 60 seconds at full power.
- (4) Remove container, stir thoroughly and note final water temperature T2 (°C).
- (5) Calculate power output= $70 \times \text{Temp. rise } (T2-T1)$.

NOTE: This is only an approximate test method, not IEC705 test method to which the microwave oven has been tested and rated.

4. PRECAUTIONS AND REPAIR SERVICE TIPS PRELIMINARY

A. SINCE NEARLY 4,000 VOLTS EXIST IN SOME CIRCUITS OF THIS MICROWAVE OVEN, REPAIRS SHOULD BE CARRIED OUT WITH GREAT CARE

B. TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY LEAKAGE, THE FOLLOWING PRECAUTIONS MUST BE TAKEN BEFORE SERVICING.

(1) Before the power is applied.

- (a) Open and close door several times to make sure the primary interlock switch, the door sensing switch, and the interlock monitor switch operate properly. (Listen for the clicking sound from switches). Make sure the interlock monitor switch is closed after the primary interlock switch is opened, when the door is opened. (See pages 1 and 7).
- (b) Make sure the perforated screen and the dielectric choke of the door are correctly mounted.

(2) After the power is applied.

- (a) Open and close the door to see if the interlock mechanism operates properly.
- (b) Check microwave energy leakage with a leakage detector and confirm the energy leakage is below 5mW/cm².

(3) Do not operate the unit until it is completely repaired, if any of the following conditions exists.

- (a) Door does not close firmly against the cavity front.
- (b) The hinge is broken.
- (c) The choke dielectric or the door seal is damaged.
- (d) The door is bent or warped, or there is any other visible damage to the oven that may cause microwave energy leakage.
NOTE: Always keep the seal clean
- (e) Make sure there are no defective parts in the microwave generating and transmission assembly. (especially waveguide).

(4) Following items should be checked after the unit is repaired.

- (a) The interlock monitor switch is connected correctly and firmly.
- (b) The magnetron gasket on the magnetron is properly positioned.
- (c) Wave guide and oven cavity are intact (no leakage of microwave energy).
- (d) The door can be properly closed and the safety switches work properly.
- (e) The oven must be stopped when the door is opened or the time is up.

The oven must not be operated with any of the above components removed or bypassed.

5. OVEN CONTROL PANEL

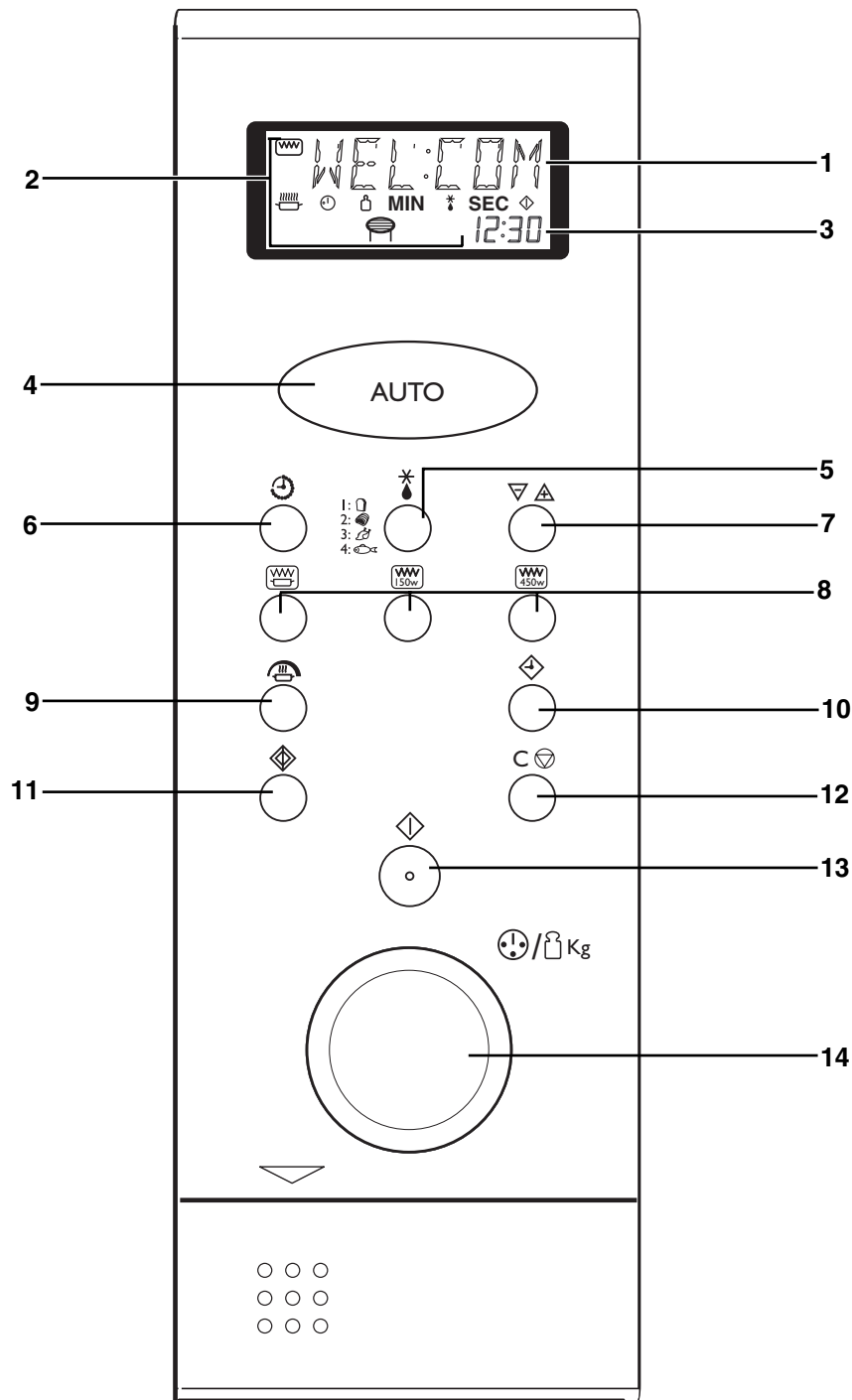


Figure 1

KEYS:

- | | |
|-------------------------------------|-----------------------|
| 1. Display Window | 8. Personal Menu Keys |
| 2. Function and Accessory Indicator | 9. Micro Power |
| 3. Kitchen Timer Display | 10. Delay Start |
| 4. Auto Program Key | 11. Quick Start |
| 5. Auto-Defrost | 12. Clear/Stop |
| 6. Kitchen Timer Key | 13. Start |
| 7. More/Less Key | 14. Rotary Dial |

Notes :

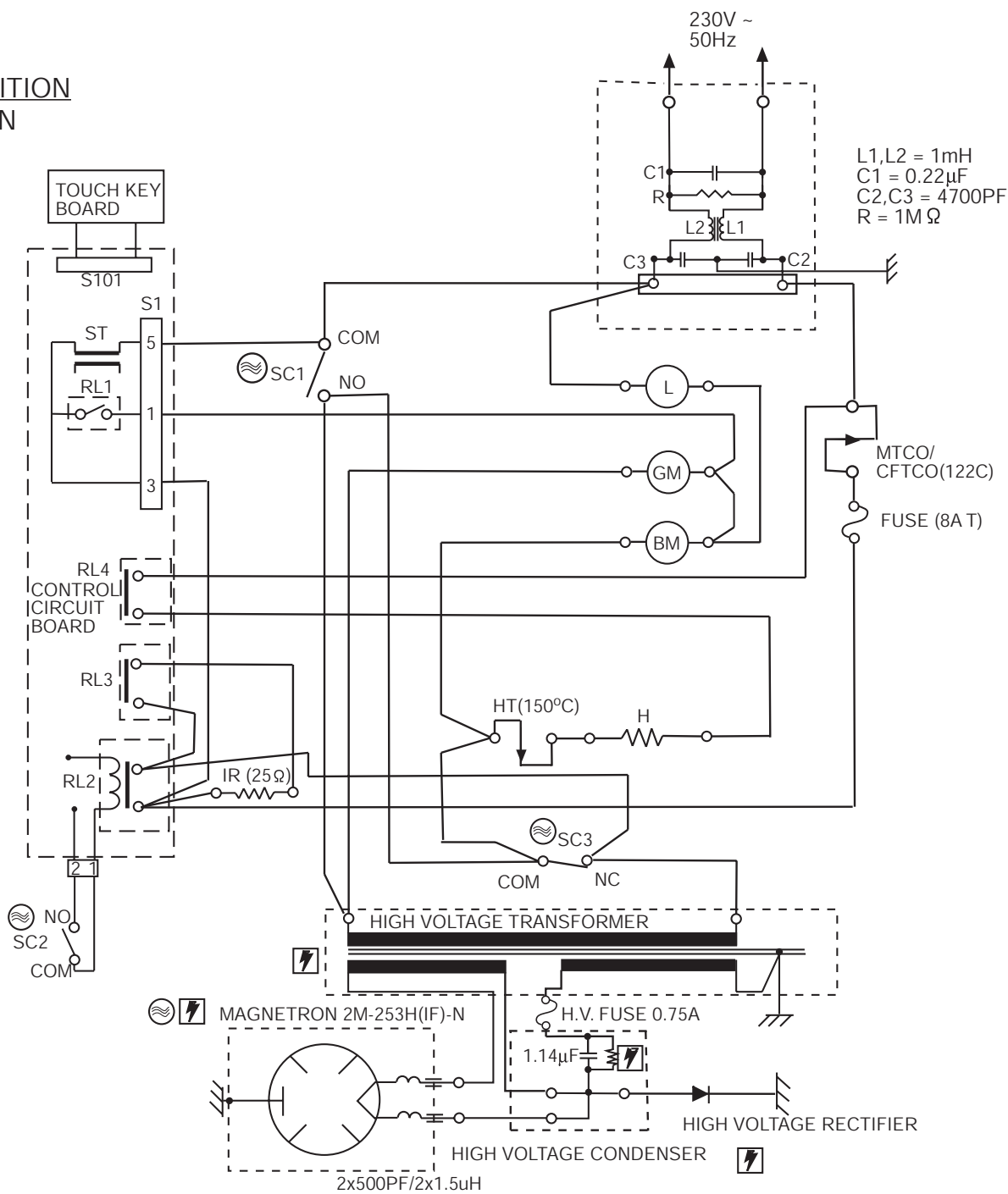
A "beep tone" sounds when a "pad" on the control panel is touched, to indicate a setting has been entered.

When setting the controls you can keep your finger on a key until the desired setting is reached.



EM-SL20N



OVEN CONDITION

DOOR : OPEN



SC1 : PRIMARY INTERLOCK SWITCH
SC2 : DOOR SENSING SWITCH
SC3 : INTERLOCK MONITOR SWITCH
MTCO/CFTCO : MAGNETRON/CAVITY FIRE
THERMAL CUT OUT
HT : HEATER THERMOSTAT
RL1 : MAIN RELAY
RL2 : POWER CONTROL RELAY
RL4 : GRILL HEATER RELAY
BM : BLOWER MOTOR
GM : GEAR MOTOR
L : CAVITY LAMP
ST : STEP DOWN TRANSFORMER
IR : INRUSH RESISTOR

 - The parts marked with  are supplied with a high voltage which exceeds 250V.

 - The parts marked with  have special characteristics important for microwave leakage. When replacing any of these parts use only manufacturer's specified parts.

7. TEST PROCEDURES AND TROUBLESHOOTING

CAUTION

- DISCONNECT THE POWER SUPPLY CORD FROM THE WALL OUTLET WHENEVER REMOVING THE CABINET FROM THE UNIT. PROCEED WITH THE TESTS ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE LEAD WIRES FROM THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMER. (See Figure 3)

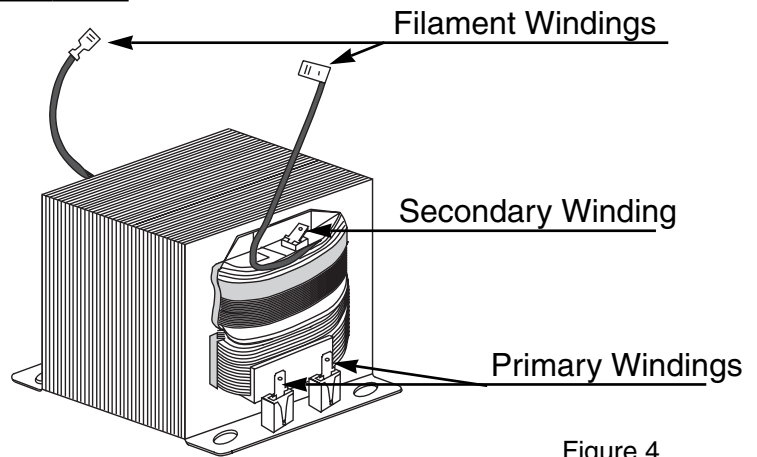
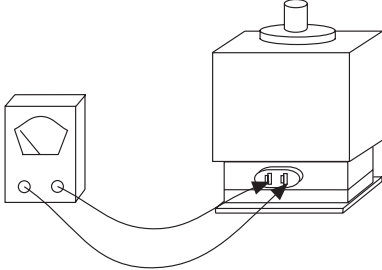
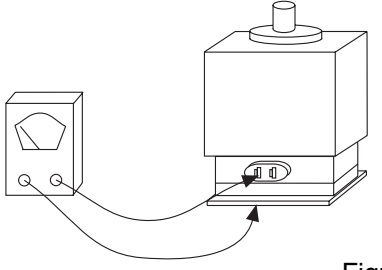
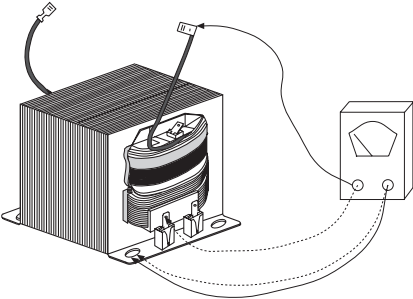
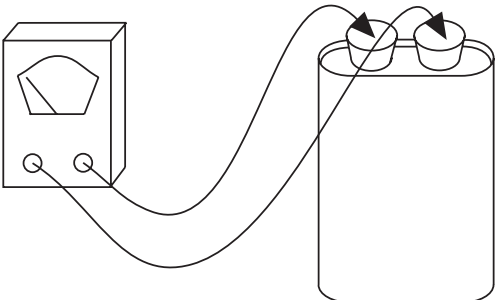
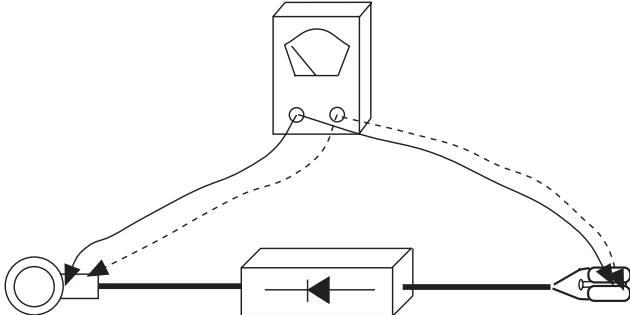
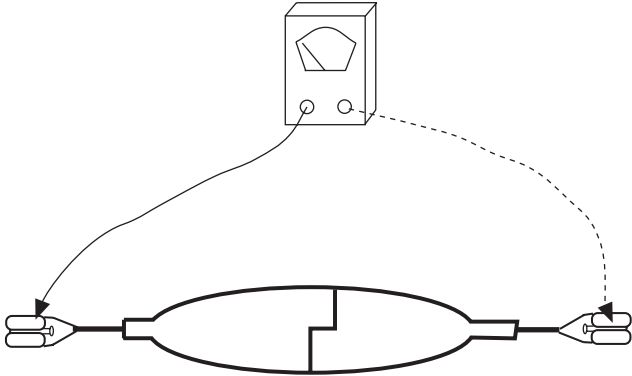


Figure 4

A. TEST PROCEDURE

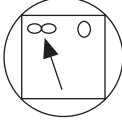
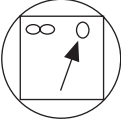
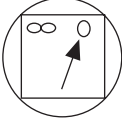
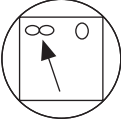
COMPONENT	CHECKOUT PROCEDURE	RESULTS																				
MAGNETRON	<p>1) Check for resistance : Across the filament terminals of the the magnetron with an ohmmeter on Rx1 scale.</p>  <p>Figure 5</p>	Normal reading : Less than 1 ohm.																				
	<p>2) Check for resistance : Across the filament terminals of the magnetron and the chassis ground with an ohm-meter on highest scale.</p>  <p>Figure 6</p>	Normal reading : Infinite ohms																				
	<p>The chart below shows the firing times of the variable power relay for the EM-SL20 model. The table should be used as a means to check the magnetron is operating correctly and producing any other power setting apart from full power.</p> <table border="1"> <thead> <tr> <th>Power Level</th><th>On Time/s (inc.'ramp up' time)</th><th>% On Time</th></tr> </thead> <tbody> <tr> <td>High (900W)</td><td>30.0</td><td>100</td></tr> <tr> <td>M-High(750W)</td><td>28.0</td><td>93</td></tr> <tr> <td>Roast (450W)</td><td>18.0</td><td>60</td></tr> <tr> <td>Simmer(300W)</td><td>13.0</td><td>43</td></tr> <tr> <td>Warm (150W)</td><td>8.0</td><td>27</td></tr> <tr> <td>Low (80W)</td><td>6.0</td><td>20</td></tr> </tbody> </table>	Power Level	On Time/s (inc.'ramp up' time)	% On Time	High (900W)	30.0	100	M-High(750W)	28.0	93	Roast (450W)	18.0	60	Simmer(300W)	13.0	43	Warm (150W)	8.0	27	Low (80W)	6.0	20
Power Level	On Time/s (inc.'ramp up' time)	% On Time																				
High (900W)	30.0	100																				
M-High(750W)	28.0	93																				
Roast (450W)	18.0	60																				
Simmer(300W)	13.0	43																				
Warm (150W)	8.0	27																				
Low (80W)	6.0	20																				

COMPONENT	CHECKOUT PROCEDURE	RESULTS
HIGH VOLTAGE TRANSFORMER	<p>1) Measure the resistance : With an ohmeter on Rx1 scale.</p> <ul style="list-style-type: none"> a. Primary Winding ; b. Filament Winding ; c. Secondary Winding ; <p>2) Measure the resistance : With an ohm-meter on highest scale.</p> <ul style="list-style-type: none"> a. Primary winding to ground ; b. Filament winding to ground ;  <p style="text-align: center;">Figure 7</p>	<p>Normal readings :</p> <p>Approximately 1.75 ohms. Less than 1 ohm. Approximately 90.11 ohms.</p> <p>Normal readings :</p> <p>Infinite ohms Infinite ohms</p> <p>Note : Remove varnish of measured point.</p>
HIGH VOLTAGE CAPACITOR including BLEEDER RESISTOR	<p>1) Measure the resistance : Across two terminals with an ohm-meter on highest scale</p>  <p style="text-align: center;">Figure 8</p>	<p>Normal reading : Momentarily indicates several ohms, and gradually returns to 10 Meg-ohm.</p> <p>Abnormal reading : Indicates continuity or 10MΩ from the beginning.</p>
HIGH VOLTAGE DIODE	<p>Measure the resistance : Across two terminals with an ohm-meter on its highest scale.</p>  <p style="text-align: center;">Figure 9</p>	<p>Normal reading : Indicates over 10MΩ in one direction (forward direction) and infinite ohms in the reverse direction, using meter which is provided with a 9-volt battery.</p> <p>NOTE Some digital meters may show over even in a forward direction because low measuring voltage of meter does not allow the meter current to pass through the high voltage diode.</p> <p>Abnormal reading: Indicates continuity or infinite ohms in both directions.</p>

COMPONENT	CHECKOUT PROCEDURE	RESULTS						
HV FUSE	<p>Measure the resistance : Across two terminals with an ohm-meter on its highest scale.</p>  <p>Figure 10</p>	<p>Normal reading : Indicates continuity.</p> <p>Abnormal reading : Indicates infinite ohms.</p>						
CONTROL CIRCUIT BOARD COMPLETE	<p>Measure the voltage : Between test points TP-1,TP-2, and ground (See control circuit board on page 20).</p> <p>NOTE</p> <p>Proceed with the check of the step down transformer, to see if any one of the measured values is different from the specified values</p>	<table border="1"> <tr> <td>Test point</td><td>TP-1</td><td>TP-2</td></tr> <tr> <td>Voltage</td><td>-5V DC</td><td>-15V DC</td></tr> </table>	Test point	TP-1	TP-2	Voltage	-5V DC	-15V DC
Test point	TP-1	TP-2						
Voltage	-5V DC	-15V DC						

CHECKOUT PROCEDURE FOR SWITCHES







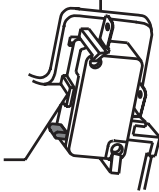



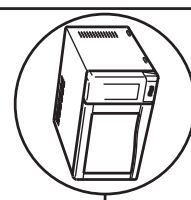
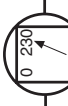


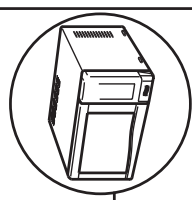
Disconnect the lead wires from the switches and check the continuity of the switches, connecting an ohm-meter to its terminals.

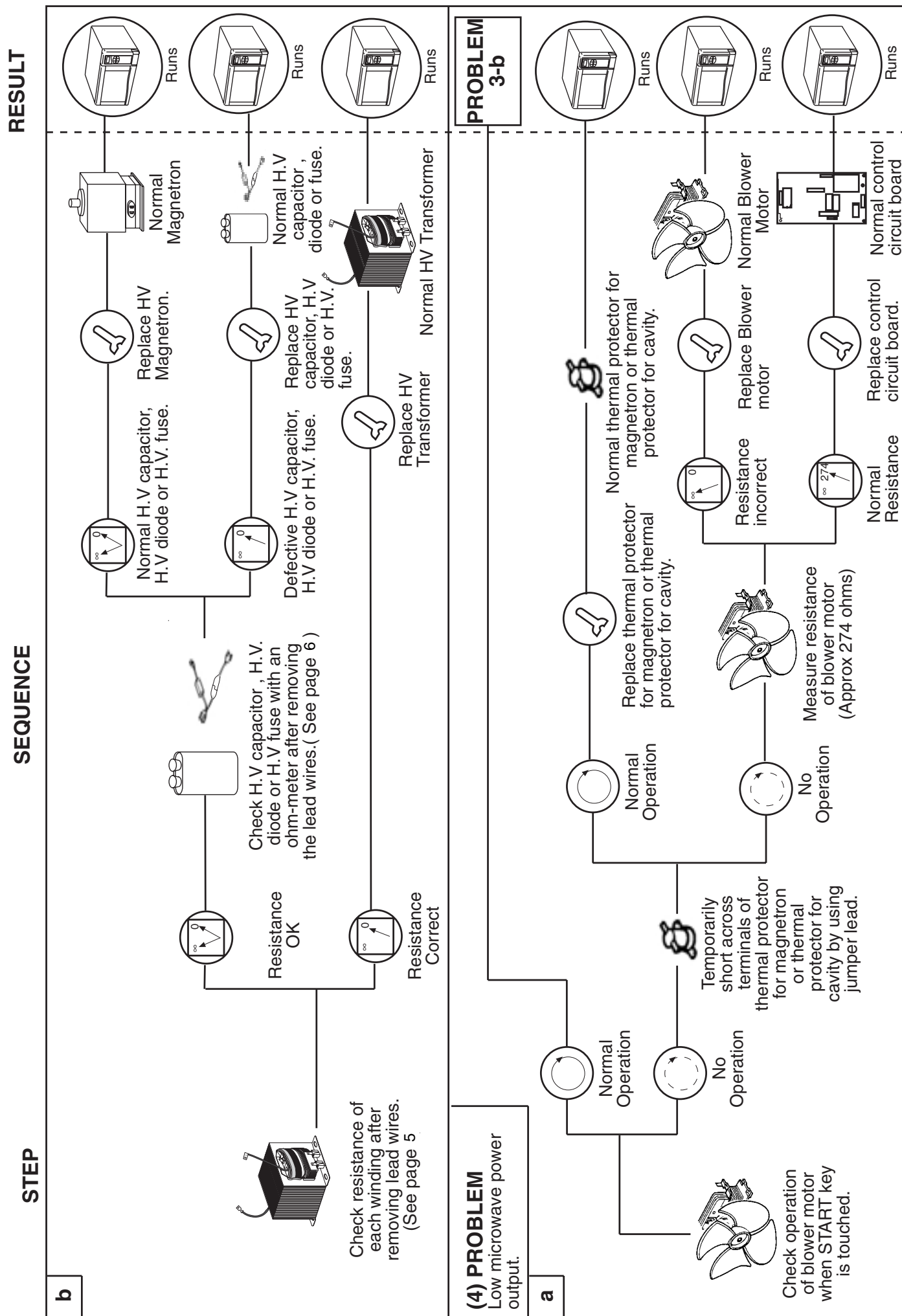
SWITCH	CHECKOUT PROCEDURES	DOOR OPEN	DOOR CLOSE
Primary Interlock	Connect an ohm-meters leads to terminals "COM" and "NO" of switch		
Door Sensing			
Interlock monitor	Connect an ohm-meters leads to terminals "COM" and "NC" of switch		

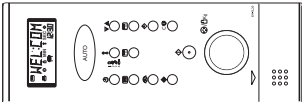
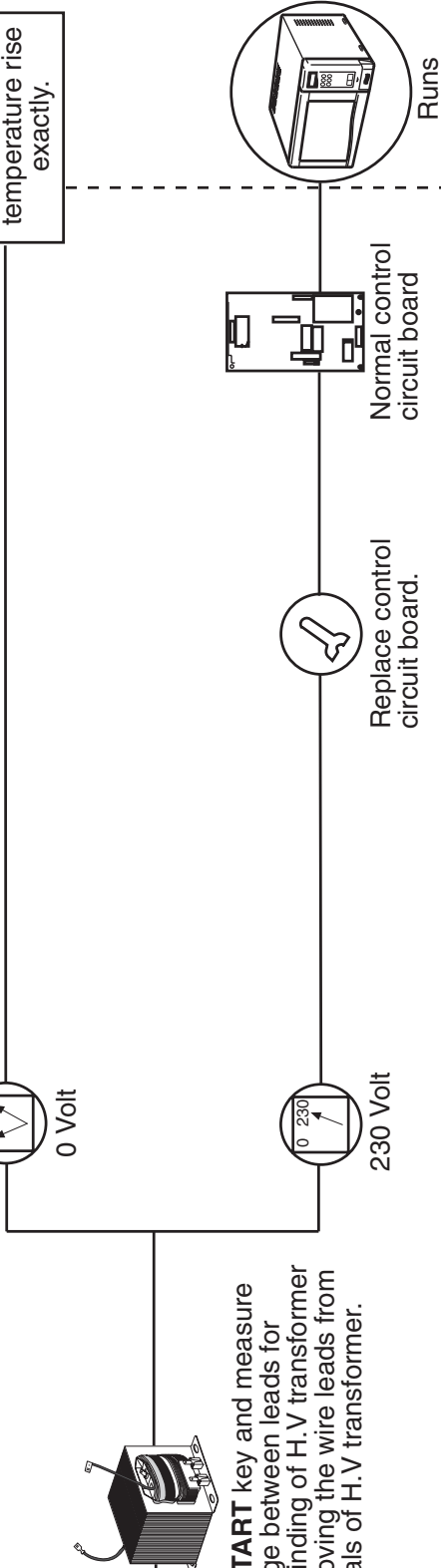
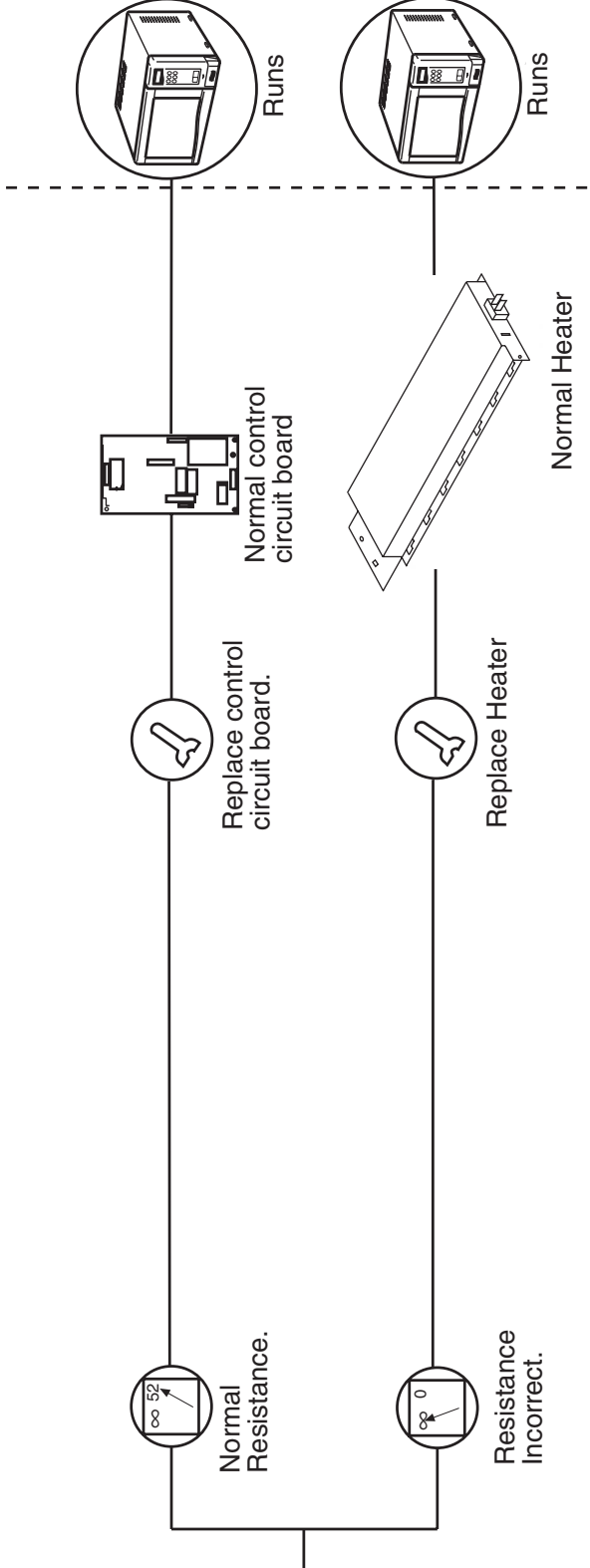
CAUTION : After checking the switches, make sure that the interlock monitor switch is properly connected according to the CIRCUIT DIAGRAM on page 4.

B. TROUBLESHOOTING

STEP	SEQUENCE	RESULT
<div>(1) PROBLEM No display or mis-display in the display window by touching the keys.</div> <div>a</div>	<div><div>0 230</div><div>0 Volt</div></div> <div>✓</div> <div>Check continuity of FUSE, Thermal Protector for cavity, magnetron and AC Power Cord. If the fuse has blown see "D. REMOVING FUSE" on page 13</div> <div>Replace it if necessary</div> <div><div>0 230</div><div>230 Volt</div></div> <div>Check 230V AC power supply of connector S1 between Pin3 and Pin 5 after removing connector S1 from control circuit board.</div>	<div>Runs</div> <div>PROBLEM 1-b</div>
<div>b</div>	<div>Control Circuit Board</div> <div>Each Voltage OK</div> <div>Correct seating of connector S101 or replace control circuit board.</div> <div>Normal control circuit board</div> <div>Runs</div> <div>Check power supply voltage on control circuit board. (See page 7)</div> <div>Voltage incorrect</div> <div>Replace control circuit board.</div> <div>Normal control circuit board</div> <div>Runs</div>	

STEP	SEQUENCE	RESULT
(2) PROBLEM Cooking operation will not start.	<div data-bbox="276 1785 331 2087"> a </div> <div data-bbox="276 1312 368 2011"> CHECK : 1. Power Supply to Oven 2. Primary Interlock Switch 3. Thermal protector for Cavity and Magnetron </div> <div data-bbox="395 1435 512 1554">  Continuity OK </div> <div data-bbox="395 1200 533 1283">  Check contact of connector S102 </div> <div data-bbox="276 864 363 1010">  Contact OK </div> <div data-bbox="564 864 652 1010">  Poor Contact </div> <div data-bbox="564 629 652 712">  Correct Seating </div> <div data-bbox="564 371 652 454">  Normal Contact </div> <div data-bbox="501 1827 660 2018">  Check continuity of connector S102 between pins with the door closed after removing connector S102 from control cct board. </div> <div data-bbox="831 1391 948 1554">  No Continuity </div> <div data-bbox="831 629 919 712">  Adjust or Replace Door Sensing Switch </div> <div data-bbox="759 304 919 495">  Normal Door Sensing Switch </div> <div data-bbox="695 125 727 192"> Runs </div> <div data-bbox="959 125 991 192"> Runs </div>	<div data-bbox="276 60 373 259"> PROBLEM 3a </div> <div data-bbox="501 60 692 259">  </div>
(3) PROBLEM Oven does not heat up	<div data-bbox="1109 1785 1165 2087"> a </div> <div data-bbox="1050 1413 1166 1518">  230 Volt </div> <div data-bbox="1310 707 1398 790">  Replace Control Circuit Board </div> <div data-bbox="1222 416 1414 521">  Normal Control Cct. board </div> <div data-bbox="1430 125 1461 192"> Runs </div>	<div data-bbox="1109 60 1206 259"> PROBLEM 3-b </div> <div data-bbox="1238 60 1430 259">  </div>



STEP	SEQUENCE	RESULT
<p>(5) PROBLEM The magnetron operates on high level when a lower cook power is selected.</p> <p>a</p>  <p>Set power level at low.</p>	 <p>Touch START key and measure voltage between leads for primary winding of H.V transformer after removing the wire leads from terminals of H.V transformer.</p> <p>0 230</p> <p>0 Volt</p> <p>230 Volt</p> <p>Replace control circuit board.</p> <p>Normal control circuit board</p> <p>Runs</p>	<p>(6) PROBLEM Unit does not heat up even if display counts down when key is touched for "Grill Cooking".</p> <p>a</p>  <p>Check resistance of heater. Aproximately 48.7Ω measured over both terminals.</p> <p>infinity 52</p> <p>Normal Resistance.</p> <p>Replace control circuit board.</p> <p>Normal control circuit board</p> <p>Replace Heater</p> <p>Normal Heater</p> <p>Runs</p>

8.DISASSEMBLY INSTRUCTIONS

- OVEN MUST BE DISCONNECTED FROM ELECTRICAL OUTLET WHEN MAKING REPLACEMENTS, REPAIRS, ADJUSTMENTS, AND CONTINUITY CHECKS BEFORE PROCEEDING WITH ANY REPAIR WORK AFTER DISCONNECTING. WAIT AT LEAST 1 MINUTE, UNTIL THE CAPACITOR IN THE HIGH VOLTAGE AREA HAS FULLY DISCHARGED.

- WHEN REPLACING ANY DOOR MICRO SWITCH, REPLACE WITH THE SAME TYPE SWITCH SPECIFIED ON THE PARTS LIST.

A. REMOVING PRIMARY INTERLOCK SWITCH, DOOR SENSING SWITCH AND INTERLOCK MONITOR SWITCH

(See Figure 1 on page 1 and Figure 12 on this page)

- (1) Remove 2 screws securing the lever stopper.
- (2) Disconnect all lead wires from the primary interlock switch, door sensing switch and the interlock monitor switch
- (3) Ease away the retaining clips holding the Primary interlock switch onto the lever stopper and remove.
- (4) Remove the door sensing switch by reference to the step (3).
- (5) Remove the interlock monitor switch by reference to step (3).
- (6) Make the necessary adjustment, and make microwave energy leakage check according to "1. ADJUSTMENT PROCEDURES" on page 1. After the switch is replaced with a new one, check proper operation of it according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 8.

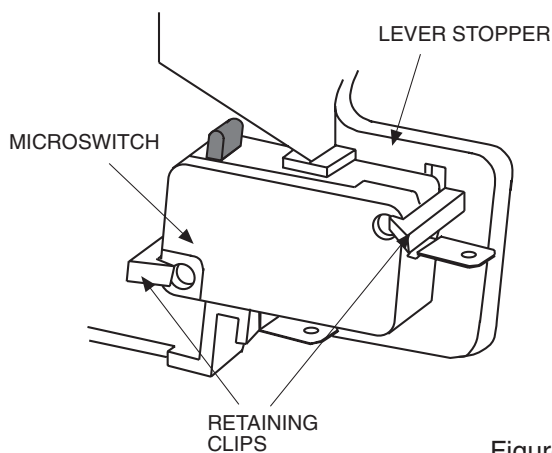


Figure 12

Interlock Switch Replacement - when replacing faulty switches, be sure switch retaining clips are not bent, broken or otherwise deficient in their ability to secure the switches in place.

B. REMOVING THE ANTENNA

(See exploded view on page 15)

- (1). Remove the screw securing the cavity cover to the cavity.
- (2). Remove the antenna complete by slightly bending it so the retension clips holding it slide out of the cavity wall.

C. REMOVING MAGNETRON

(See exploded view on page 16)

- (1) Remove the antenna complete according to

B. REMOVING THE ANTENNA.

- (2) Disconnect the 2 lead wires from the magnetron.
- (3) Remove 1 screw securing the duct to the magnetron, and take out the duct.
- (7) Remove 4 screws securing the magnetron to the waveguide.

Take out the magnetron **VERY CAREFULLY.**

NOTES

- When removing the magnetron, make sure that its dome does not hit any adjacent parts, or it may be damaged.
- After replacing the magnetron, be sure to check the microwave energy leakage with a leakage detector and confirm the leakage is below 5 mW/cm².

D. REMOVING FUSE

(A) Remove the 8A fuse with a screwdriver.

- When replacing the 8A fuse, be sure to use an exact repair part.
 - If the 8A fuse blows immediately, check the primary interlock switch and the interlock monitor switch (terminals "C" and "NC") according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 8, and make sure to check the microwave energy leakage according to "1. ADJUSTMENT PROCEDURE" on page 1, when the primary interlock switch or the interlock monitor switch is replaced.
 - If the primary interlock switch is defective, replace not only the primary interlock switch but also the interlock monitor switch.
- Then install a new 8A fuse.
- If the primary interlock switch and the interlock monitor switch (terminals "C" and "NC") operate properly, determine which of the following is defective: blower motor, turntable motor, high voltage transformer, high voltage capacitor, high voltage diode or magnetron.

- If the high voltage diode is defective , replace not only the high voltage diode but also the HV fuse.

E. REMOVING DOOR

- (1) Remove the 2 screws securing the upper hinge.
- (2) Tilt the top of the door toward you.
- (3) Lift up the door to remove it.

When replacing the door body or door assembly the new door has to be set properly ensuring the correct door gap between door body and cavity front.

To set the new door;

1. Mount door loosely on cavity.
2. Before tightening the top and bottom hinge screws place feeler gauges (the thickness varies for different models- see table below) between the door assembly and the cavity front plate between the top and bottom hinges. NB. Be careful not to scratch the door cover with the feeler gauges.
3. The door should then be aligned with the control base and held firmly in place leaving a gap within 1-2mm. between the door cover and control base.

4. The hinge screws should then be tightened to hold the door in place, and the feeler gauges removed.
5. The door gap should then be checked again using feeler gauges.

Below is a table giving the door setting for the:-
EM-SL20N

DOOR GAP	
Lower Limit	Upper Limit
0.2mm.	0.8mm.

After setting the door gap, the door is closed with the door latch fully engaged and the screws securing the switch base are loosened. The switch base is then eased to the right to pull the door face hard onto the front of the microwave. The screws are then secured tight. To check if the operation has been carried out correctly push the door top and bottom. Any movement should be minimal, and the door should feel tight to the front face of the microwave. Confirm that the operation has been successfully carried out by depressing the door release lever until the microswitches are heard to operate. This occurs just before the door opens.

NOTES

- After replacing the door, be sure to check that the primary interlock switch, door sensing switch and the interlock monitor switch operate normally. (See page 1).
- After replacing the door check for microwave energy leakage with a leakage detector.
Microwave energy leakage must be below the limit of 5mW/cm².

F. DISASSEMBLYING DOOR

(See exploded view on page 18)

- (1) Insert a thin flat blade screwdriver between the choke dielectric and the door mainframe and lift up the choke dielectric to release the hooks one by one.
- (2) To remove door cover, remove the 2 screws securing the door cover to the door main frame
- (3) Insert a thin flat blade screwdriver between the door cover and door mainframe and release the hooks one by one.
- (4) To detach the glass door panel, insert a thin flat blade screwdriver between the door panel and door cover and release the clips one by one.

NOTES

- The choke dielectric, the glass door panel and the door cover may be damaged when they are removed. When re-installing them, replace them with new ones if they are damaged.
- After installing the door in place, check for microwave energy leakage with a leakage detector.
Microwave energy leakage must be below the limit of 5mW/cm².

G. CHANGING POWER SUPPLY CORD

(See exploded view on page 16)

- (1) Removing the earthing screw.
- (2) Remove the power supply cord from the terminal of PCB complete.

- (3) Remove power cord from cavity assembly by lifting cord bush, moving it to the left and pulling it away from cavity rear plate.
- (4) Install the new power supply cord with the reverse procedure of above (1) to (3).

WARNING

For changing the power supply cord, never use parts other than the following :

Part Name : Power Supply Cord Assembly
Part No : **617 213 2990 (Continental)**

H. REMOVING TURNTABLE MOTOR COVER

(Refer to Figures 13 and 14 below)

- (1) Turn the unit and cut the 6 joints of the bottom plate and the motor cover using diagonal pliers (nipper). (See Figure 13)
- (2) Separate the motor cover and the bottom plate.

NOTES

- Bend the cut joints inside slightly for safety and be careful of the sharp edges.

RE-INSTALL :

- (1) Rotate the motor cover through 180°.
- (2) Insert the edge of the motor cover into the tab on the bottom plate.
- (3) Secure the motor cover by screwing it to the bottom plate (See Figure 14)
Use screw 411 156 5502 (not supplied with oven)

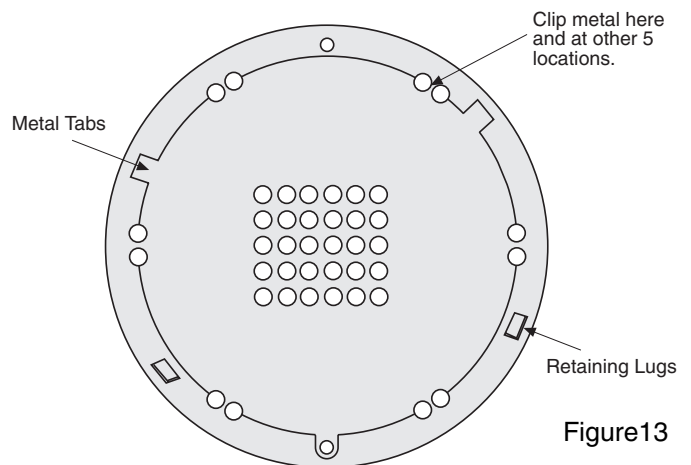


Figure13

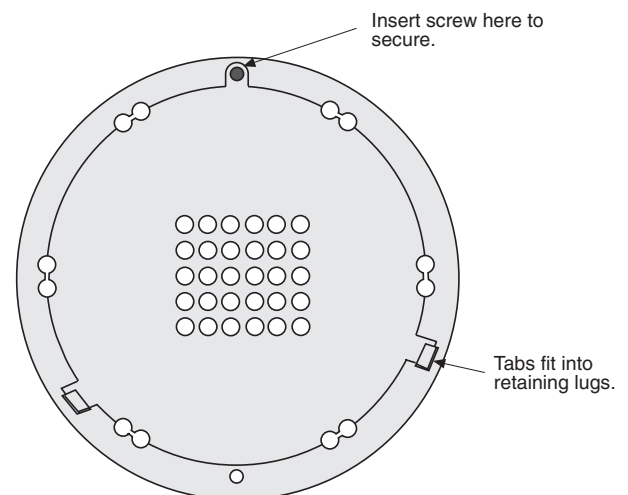
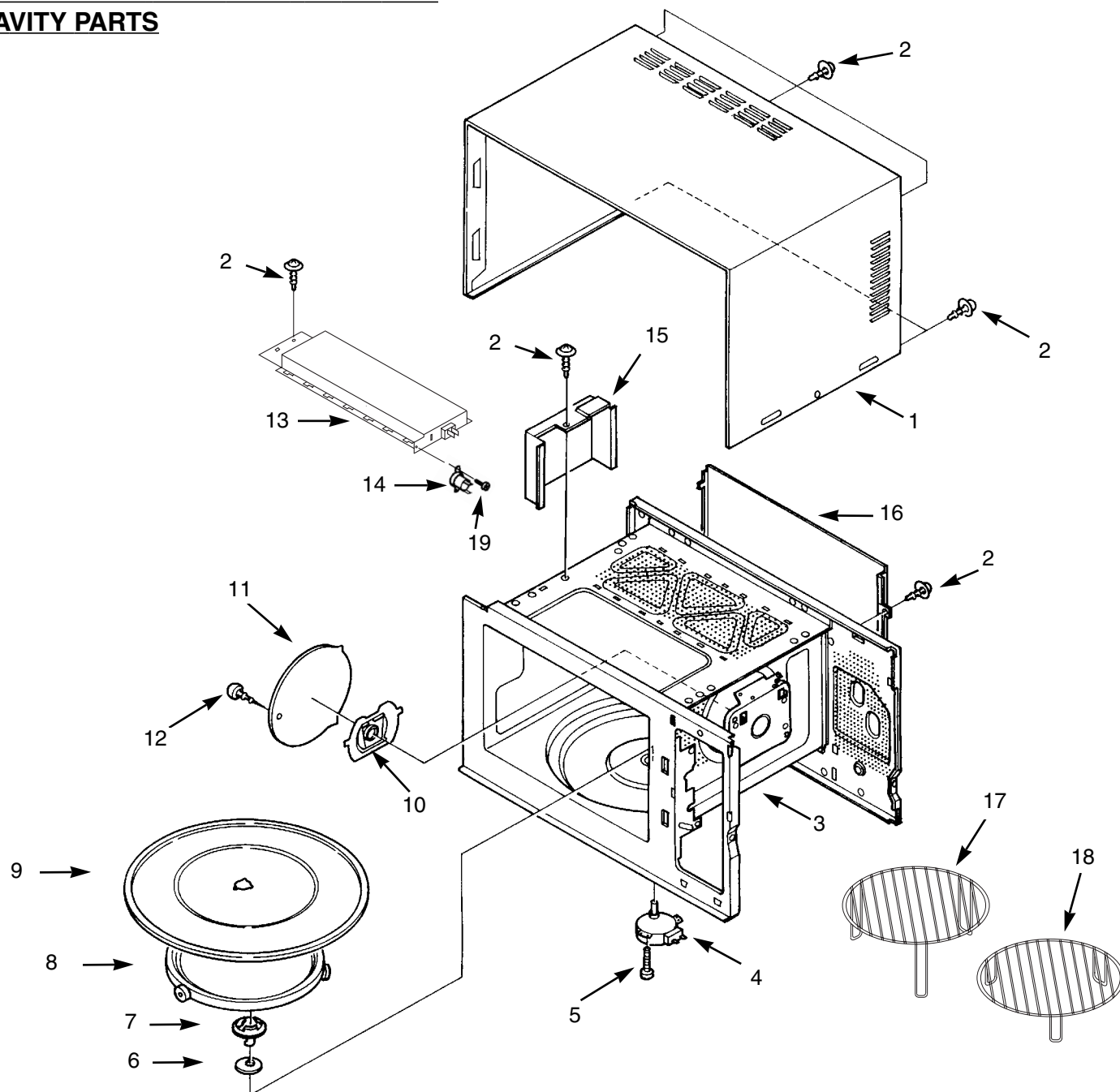


Figure14

8. EXPLODED VIEW AND PARTS LIST

CAVITY PARTS

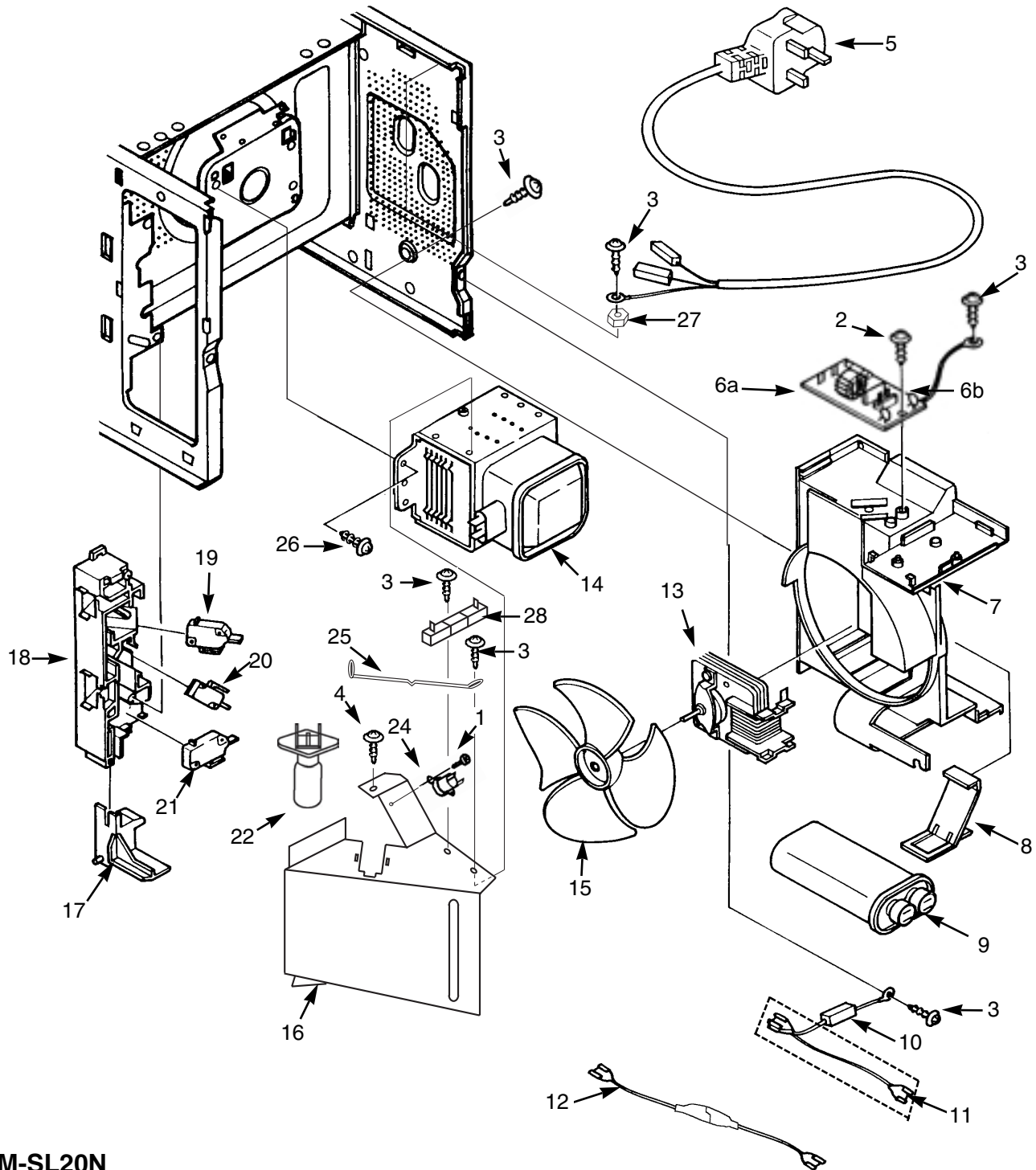


EM-SL20N

Key No.	Part No.	Description	Q'ty
1	617 220 4376	Cabinet	1
2	411 156 5601	SCR TPG PAN+F+S 4x10	7
3	MO-A0730	Cavity	1
4	MO-S1121	Gear Motor	1
5	411 001 6005	SCR S-TPG PAN 4x8	2
6	MO-R0132	Special Washer	1
7	617 184 7659	Turntable Shaft	1
8	617 215 9560	Roller Base Ass'y	1
9	617 167 1421	Glass Tray	1
10	MO-A0737	Antenna Complete	1
11	617 169 8930	Cavity Cover	1
12	412 037 5901	SCR TPG TRS 4x6K	1

Key No.	Part No.	Description	Q'ty
13	617 221 0025	Heater Complete	1
14	617 202 4554	Thermostat, 150°C	1
15	617 167 0431	Duct	1
16	617 169 6875	Frame Rear Plate	1
17	617 166 2153	Cook Net (H)	1
18	617 170 5058	Cook Net (L)	1
19	411 010 5600	SCR EVR PAN 3x6	1

SWITCHES AND MICROWAVE PARTS

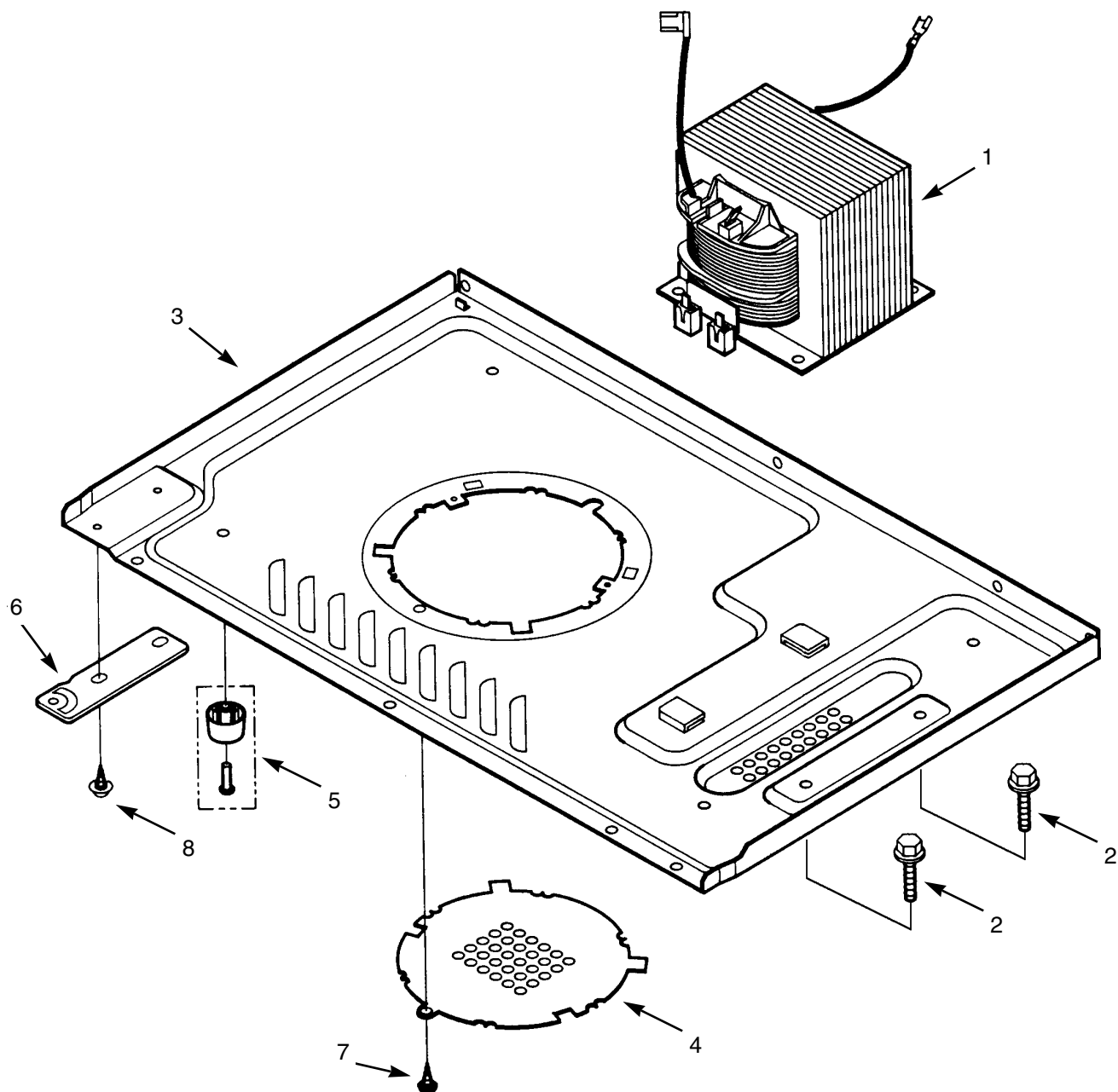


EM-SL20N

Key No.	Part No.	Description	Q'ty
1	411 010 5600	SCR EVR PAN 3x6	1
2	411 156 5601	SCR TPG PAN+F+S 4x10	1
3	411 156 5502	SCR S-TPG PAN+F+S 4x10	6
4	411 171 9004	SCR TPG TRS+FLG 3x8	1
5	617 213 2990	Power Supply Cord	1
6a	617 179 0746	PCB Complete (N-F)	1
6b	423 027 8802	Fuse	1
7	617 167 0417	Space Partition	1
8	617 162 2041	Capacitor Band	1
9	MO-S0856	Capacitor 1.14uF	1
10	MO-S0947AS	Diode Ass'y	1
11	617 234 1934	Lead Wire Ass'y	1
12	617 182 2915	HV Fuse	1
13	617 229 3769	Blower Motor	1
14	MO-S1118	Magnetron	1
15	617 112 1025	Fan	1
16	MO-M1211	Duct	1

Key No.	Part No.	Description	Q'ty
17	617 195 3428	Latch Lever	1
18	617 189 0839	Lever Stopper	1
19	617 244 0651	Door Sensing Switch	1
20	617 244 0644	Interlock Monitor Switch	1
21	617 244 0651	Primary Interlock Switch	1
22	MO-S0587	Lamp Ass'y	1
24	617 202 4561	Thermostat V122°C	1
25	617 220 1757	Stay Plate	1
26	617 218 9673	Special Screw	4
27	411 004 5609	NUT HEX M4	1
28	402 071 0703	Ceramic Resistor	1

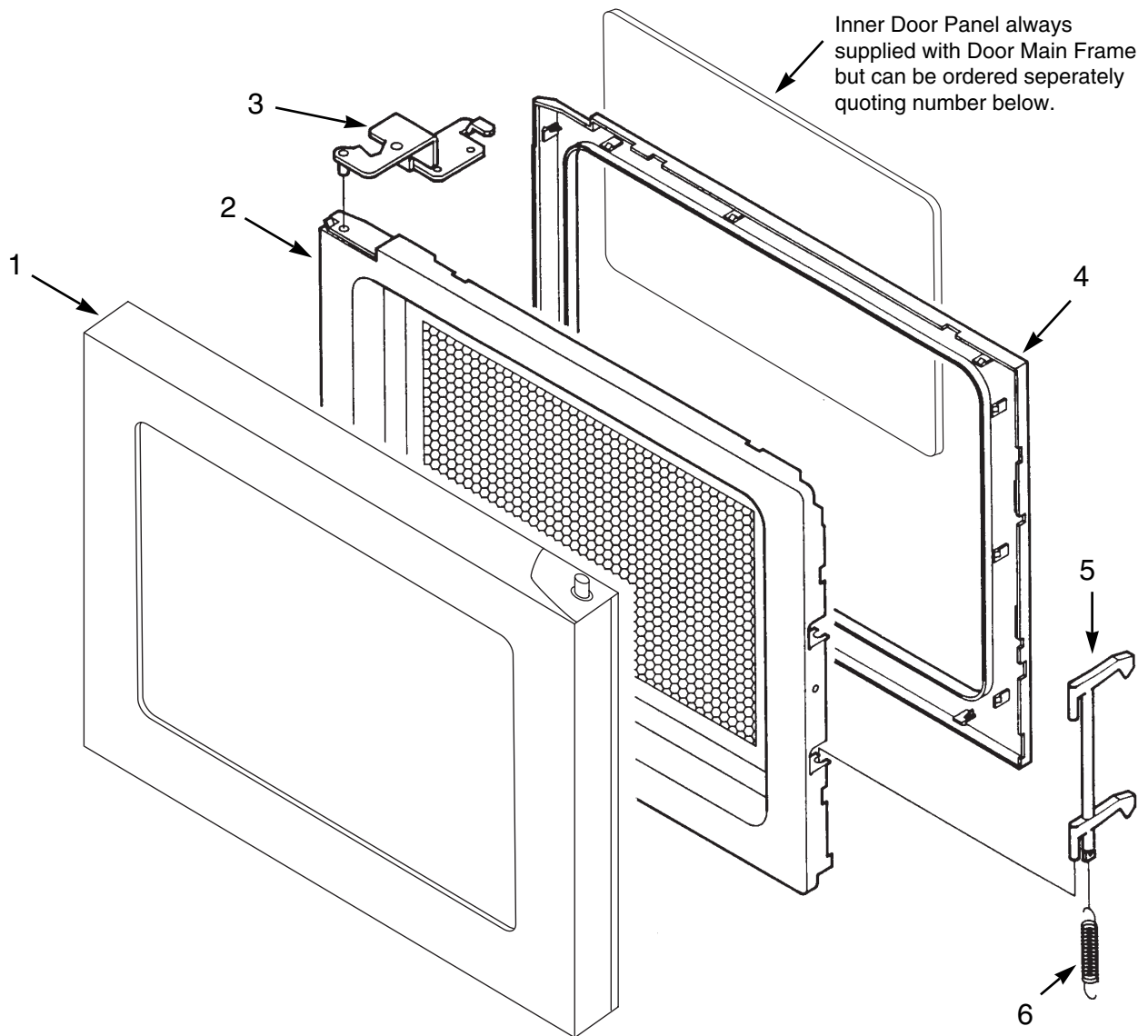
MICROWAVE PARTS



EM-SL20N

Key No.	Part No.	Description	Q'ty
1	617 209 4557	Transformer	1
2	617 225 1721	Special Screw	2
3	617 225 6153	Bottom Plate Assembly	1
4	-----	Gear Motor Cover	1
5	617 144 5435	Foot Cushion Assembly	4
6	617 166 7493	Bottom Hinge	1
7	411 156 5602	SCR S-TPG PAN+F+S 4x10	1
8	617 102 7495	Special Screw	2

DOOR PARTS

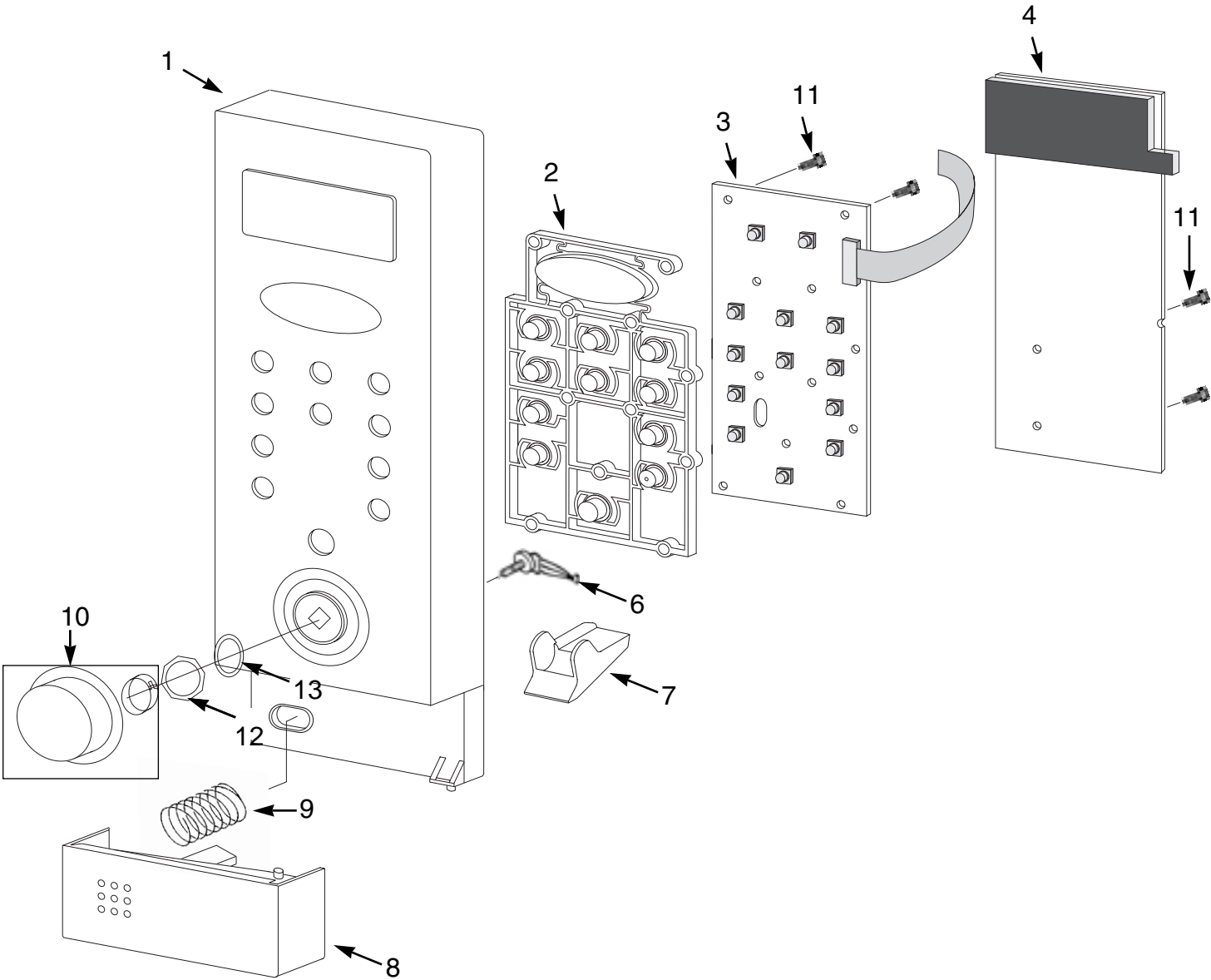


EM-SL20N

Key No.	Part No.	Description	Q'ty
1	MO-A0748	Door Cover Assembly	1
2	MO-A0768	Door Main Frame(Supplied with inner Door Panel)	1
*	617 144 2472	Glass Inner Door Panel	1
3	617 167 0189	Hinge	1
4	617 167 1292	Choke Dielectric	1
5	617 195 3411	Door Latch	1
6	617 101 1494	Spring	1
*	MO-A0756	Door Assembly	1

NB. Please refer to the detailed instructions for door setting on page 14 of the service manual before changing, adjusting or repairing these parts.

CONTROL PANEL PARTS



EM-SL20N

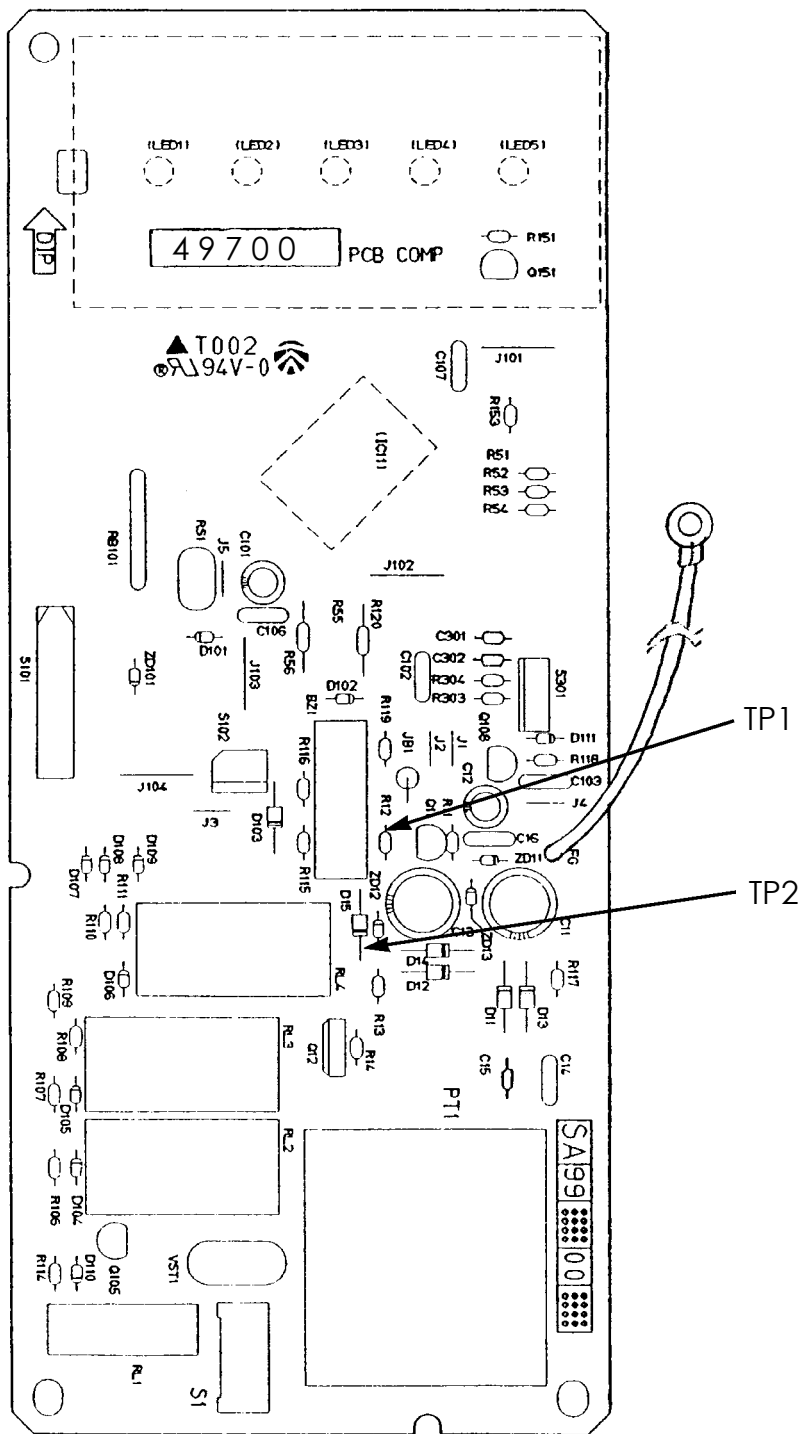
Key No.	Part No.	Description	Q'ty
1	MO-A0749	Control Base Assembly	1
2	617 236 6463	Knob Body	1
3	617 219 5520	PCB Complete	1
4	617 224 0275	PCB Complete	1
6	617 197 4836	PCB Complete	1
7	617 181 7980	Latch Lever	1
8	MO-A0747	Handle Assembly	1
9	617 188 3329	Spring	1
10	617 224 1067	Knob Assembly	1
11	411 064 6608	SCR TPG BIN 3x8	11
12	617 231 3047	Special Nut (Metal)	1
13	617 331 3047	Special Nut (Resin)	1
*	MO-P5257	Operating Instructions (EES)	1
*	MO-P5276	Carton Box	1

* These items not illustrated

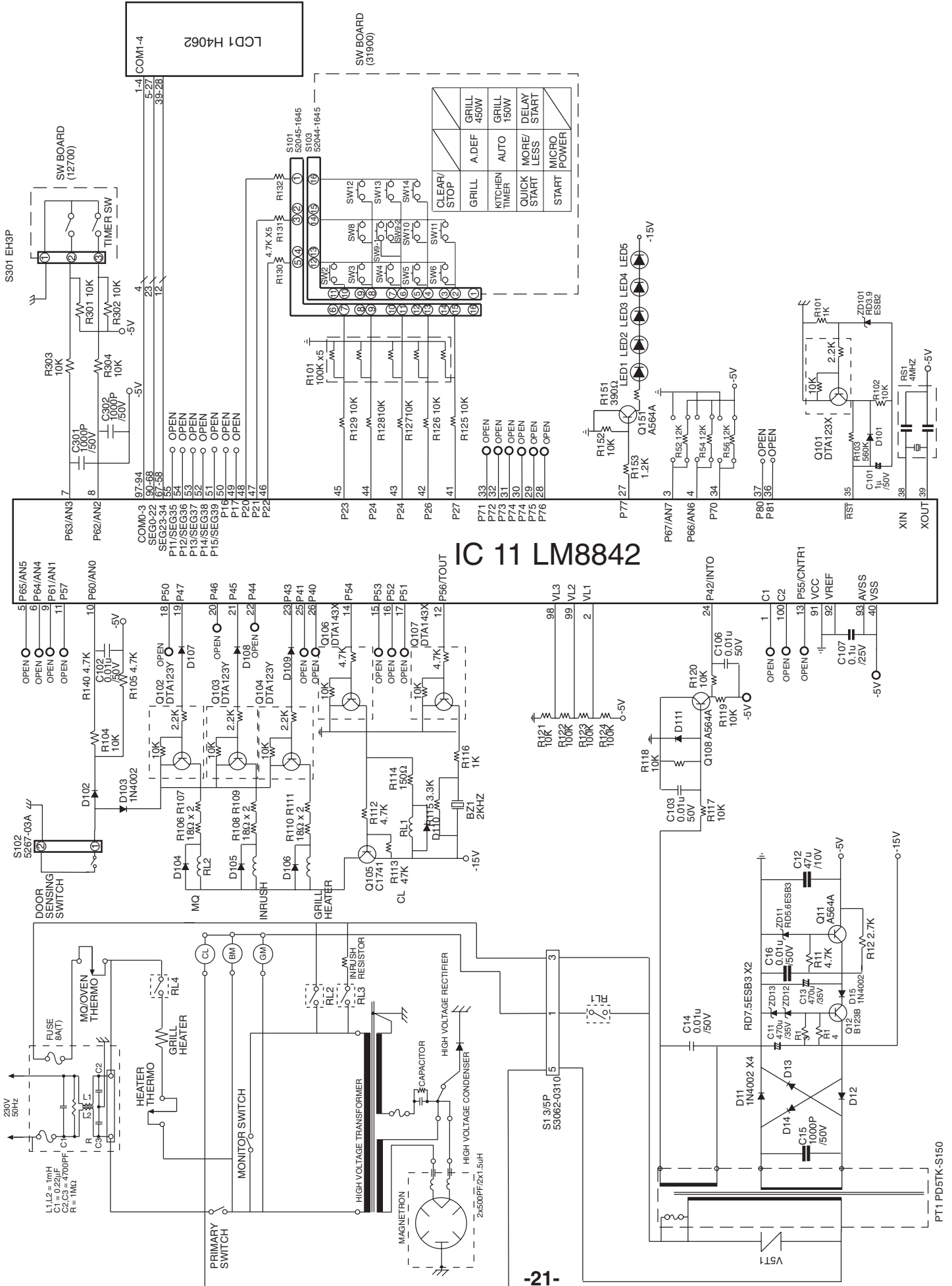
10.CONTROL CIRCUIT BOARD

EM-SL20N

Model	Spares No.	RL3	M.Processor
EM-SL20N	617 224 0275	Yes	IC11 LM8842



11. OVERALL CIRCUIT DIAGRAM EM-SL20N



Please Note

All the information that appears in this service manual was correct at the time of production. SANYO Electric Company reserves the right to make changes to parts or processes in order to maintain their policy of continuing improvement.

